

"having", and "with" as used herein are to be interpreted broadly and comprehensively and are not limited to any physical interconnection. Moreover, any embodiments disclosed in the subject application are not to be taken as the only possible embodiments.

Other embodiments will occur to those skilled in the art and are within the

5 following claims:

What is claimed is:

Applicant: Fredberg et al.
For: RIGID RADOME WITH POLYESTER-POLYARYLATE FIBERS AND
A METHOD OF MAKING SAME

- 1 1. A radome or feedome comprising at least one rigid panel including
2 composite material having polyester-polyarylate fibers in a rigid resin matrix material.
- 1 2. The radome or feedome of claim 1 in which the at least one rigid panel
2 includes a first composite material skin having polyester-polyarylate fibers in a rigid resin
3 matrix material.
- 1 3. The radome or feedome of claim 2 in which the at least one rigid panel
2 includes second, opposing composite material skins having polyester-polyarylate fibers in
3 a rigid resin matrix material and a core between the first and second composite material
4 skins.
- 1 4. The radome or feedome of claim 3 in which the core is a low density
2 material.
- 1 5. The radome or feedome of claim 1 in which the rigid resin matrix material
2 is epoxy.
- 1 6. The radome or feedome of claim 1 in which the rigid resin matrix material

2 is polyester.

1 7. The radome or feedome of claim 1 in which the rigid resin matrix material
2 is polybutadiene.

1 8. The radome or feedome of claim 1 in which the rigid resin matrix material
2 is cyanate ester.

1 9. The radome or feedome of claim 1 in which the rigid resin matrix material
2 is vinyl ester.

1 10. The radome or feedome of claim 1 in which the rigid resin matrix material
2 is a blend of at least two of: epoxy, polyester, polybutadiene, cyanate ester, and vinyl
3 ester.

1 11. The radome or feedome of claim 1 in which the polyester-polyarylate
2 fibers are between 100 denier and 5000 denier.

1. 12. A radome or feedome comprising at least one rigid panel including
2. composite material skins with polyester-polyarylate fibers in a rigid resin matrix material
3. and a core therebetween.

13. A rigid radome or feedome with reduced radio frequency loss comprising:

- a first skin including polyester-polyarylate fibers in a rigid resin matrix
- a second skin including polyester-polyarylate fibers in a rigid resin matrix
- a core disposed between the first skin and the second skins.

14. The radome or feedome of claim 13 wherein the core is a low density material.

15. The radome or feedome of claim 13 wherein the rigid resin matrix material
xy.

16. The radome or feedome of claim 13 wherein the rigid resin matrix material is polyester.

17. The radome or feedome of claim 13 wherein the rigid resin matrix material is butadiene.

18. The radome or feedome of claim 13 wherein the rigid resin matrix material is a nitrile ester.

19 The radome or feedome of claim 13 in which the rigid resin matrix

2 material is vinyl ester.

1 20. The radome or feedome of claim 13 in which the rigid resin matrix
2 material is a blend of at least two of: epoxy, polyester, polybutadiene, cyanate ester, and
3 vinyl ester.

1 21. The radome or feedome of claim 13 in which the polyester-polyarylate
2 fibers are between 100 denier and 5000 denier.

1 22. A method of producing a radome or feedome, the method comprising
2 forming at least one rigid panel including composite material having polyester-polyarylate
3 fibers in a rigid resin matrix.

1 23. The method of claim 22 wherein the at least one rigid panel includes a
2 composite material skin having polyester-polyarylate fibers in a rigid resin matrix
3 material.

- 1 24. A method of producing a radome or feedome, the method comprising:
- 2 forming a first skin comprised of polyester-polyarylate fibers in a rigid
- 3 resin matrix;
- 4 forming a second skin comprised of polyester-polyarylate fibers in a rigid
- 5 resin matrix;
- 6 disposing a core between the first and the second skins; and
- 7 bonding the skins to the core.